

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER 90-104

NPDES NO. CA0005096

WASTE DISCHARGE REQUIREMENTS FOR:

PACIFIC REFINING COMPANY
HERCULES
CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. Pacific Refining Company, henceforth called the Discharger, submitted an NPDES application (Report of Waste Discharge) dated August 18, 1989, for the reissuance of NPDES Permit No. CA0005096.
2. The discharge of wastewater from the Hercules facilities is currently regulated by Waste Discharge Requirements contained in Order No. 85-30, adopted by the Board on February 20, 1985.
3. Pacific Refining Company operates a petroleum refinery with a crude-run throughput of 49,300 barrels per day. It manufactures gasoline and other hydrocarbon fuels and is classified as a cracking refinery as defined by the U.S. Environmental Protection Agency in 40 CFR 419.20. Treated process wastewater, stormwater runoff, and other wastes as described below are discharged into San Pablo Bay, a water of the United States.
4. The report of waste discharge and recent self-monitoring reports describe the discharges as follows:
 - a. Waste 001 averages 0.22 million gallons per day (MGD) and consists of process wastes, cooling tower and boiler blowdown, sanitary sewage, and stormwater runoff. The treated wastes are discharged through a diffuser into San Pablo Bay (Lat. 38° 2' 28", Long. 122° 16' 30") at a depth of 10 feet about 2000 feet offshore and generally west of Lone Tree Point. The actual dilution provided to the Waste is not known.

- b. Waste 002 consists of stormwater runoff from refinery property which is discharged via a natural drain (Lat. 38 1' 57", Long. 122 16' 24") approximately 2500 feet south of the outfall line for Waste 001.
 - c. Waste 003 consists of stormwater runoff from refinery property which is discharged at a point (Lat. 38 1' 45", Long. 122 16' 18") located approximately 1000 feet south of the outfall line for Waste 001.
- 5. The Board adopted a Revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986, and the State Water Resources Control Board approved it on May 21, 1987. The provisions of this permit are consistent with the revised Basin Plan.
 - 6. San Pablo Bay is suspected to be a water quality limited receiving water segment, but more data are necessary to make a final determination.
 - 7. It is the Board's intent to investigate and limit the point source discharges of selenium.
 - 8. The beneficial uses of San Pablo Bay are:
 - a. Watercontact recreation
 - b. Non-contact water recreation
 - c. Navigation
 - d. Ocean commercial and sport fishing
 - e. Wildlife habitat
 - f. Estuarine habitat
 - g. Fish spawning and migration
 - h. Industrial process and service supply
 - i. Preservation of rare and endangered species.
 - j. Shellfishing
 - 9. The State Board, on May 16, 1974, adopted Resolution No. 74-43, which prescribed a Water Quality Control Policy for the Enclosed Bays and Estuaries of California. This policy states in part:

"Persistent or cumulative toxic substances shall be removed from the waste to the maximum extent practicable through source control or adequate treatment prior to discharge."
 - 10. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21110) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

- 11 Effluent limitation and toxic effluent effluent standards established pursuant to Section 208 (b), 301, 304, and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge.
- 12 Effluent limitation guidelines requiring the application of best available technology economically achievable (BAT) have been promulgated by the U.S. Environmental Protection Agency for the Cracking Subcategory of the Petroleum Refining Point Source Category, 40 CFR Part 419, on October 18, 1982, and amended on July 12, 1985. Effluent limitations of this Order are based on these guidelines, the Basin Plan, other State plans and policies, current plant performance, and best professional judgement.
- 13 This Order contains effluent limits based on recent production rates at this facility. The Board is aware that production can vary and will expedite reissuance of a new permit pursuant to 40 CFR 122.62 and 124.5 upon receipt of an application with new production data.
- 14 The Board has notified the discharger and interested agencies and persons of its intent to reissue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and opportunity to submit their written views and recommendations.
- 15 The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Water Pollution Control Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. The discharge of Waste 001 containing constituents in excess of the following limits is prohibited:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Maximum Daily</u>
BOD (5-day @ 20 C.)	lbs/day	162.3	292.1
	kg/day	73.8	132.7

TSS	lbs/day	129.8	203.6
	kg/day	59.	92.5
COD	lbs/day	1133.	2183.
	kg/day	515.	992.3
Oil and grease	lbs/day	47.2	88.5
	kg/day	21.5	40.2
	mg/l	8.	15.
Phenolic Compounds	lbs/day	0.85	2.18
	kg/day	0.39	0.99
Ammonia as N	lbs/day	88.5	194.7
	kg/day	40.2	88.5
Sulfides	lbs/day	0.85	1.92
	kg/day	0.39	0.87
Total Chromium	lbs/day	1.02	2.92
	kg/day	0.46	1.33
Hexavalent Chromium	lbs/day	0.082	0.19
	kg/day	0.037	0.086
Settleable Solids	ml/l/hr	0.1	0.2

2. In addition to the monthly average and daily maximum pollutant weight allowances shown in A.1., allocations for pollutants attributable to stormwater runoff and ballast water discharged as a part of Waste 001 are permitted in accordance with the following schedules:

STORMWATER RUNOFF

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Maximum Daily</u>
BOD (5-day @ 20)	mg/l	26.	48.
TSS	mg/l	21.	33.

COD	mg/l	180.	360.
Oil and grease	mg/l	8.	15.
Phenolic Compounds	mg/l	0.17	0.35
Total Chromium	mg/l	0.43	0.73
Hexavalent Chromium	mg/l	0.028	0.062

Ballast Water

<u>Constituent</u>	<u>Unit</u>	<u>Monthly Average</u>	<u>Maximum Daily</u>
BOD (5-day @ 20)	mg/l	26.	48.
TSS	mg/l	21.	33.
COD	mg/l	240.	470.
Oil and grease	mg/l	8.	15.
pH	Between 6.0 to 9.0		

The total effluent limitation for the discharge is the sum of the stormwater runoff allocation, the ballast water allocation and the mass limits contained in A.1. The total effluent limitation (both maximum and average) is to be computed at the discretion of the discharger on a monthly basis as shown in Part B of the Monitoring Program.

3. The discharge of Waste 001 containing constituents in excess of the following limits is prohibited:

<u>Constituent</u>	<u>Units</u>	<u>Daily Average</u>
Arsenic	µg/l	200
Cadmium	µg/l	30
Chromium (VI) *	µg/l	110
Copper	µg/l	200

Cyanide	µg/l	25
Lead	µg/l	56
Mercury	µg/l	1
Nickel	µg/l	71
Silver	µg/l	23
Zinc	µg/l	580
Phenols	µg/l	500
PAH's	µg/l	150**

* Dischargers may at their option meet this limit as total chromium.

**Polyaromatic hydrocarbons as identified by EPA method 610. If the discharge exceeds the limit for PAH's, concentrations of individual constituents should be reported.

4. The pH of the discharge of waste 001 shall not exceed 9.0 nor be less than 6.0.
5. Waste 001 shall not contain a chlorine residual in excess of 0.0 mg/l.
6. Waste 001 shall meet the following toxicity limit:

The survival of three-spine stickleback and fathead minnow (or rainbow trout) in a 96-hour parallel flow-through bioassay of the effluent as discharged shall not be less than 50% survival.

7. Total coliform bacteria for a median of 5 consecutive samples of Waste 001 shall not exceed 240 MPN/100. Any single sample shall not exceed 10,000 MPN/100 ml.
8. The discharge of Wastes 002 and 003 containing constituents in excess of the following limits is prohibited:

<u>Constituent</u>	<u>Units</u>	<u>Maximum Daily</u>
Oil and Grease	mg/l	15
TOC	mg/l	110
pH	Standard units	6.5 - 8.5
Visible Oil	observation	None

Visible color

observation

None

B. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the state at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of turbidity or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
 - a. Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
 - b. Dissolved sulfide: Shall not exceed natural background levels.
 - c. pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.
 - d. Un-ionized Ammonia (as N): 0.025 mg/l Annual Median
0.16 mg/l Maximum at any time
3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted

thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. Prohibitions

1. Waste 001 shall have an initial dilution of at least 10:1.
2. The discharge of all conservative toxic and deleterious substances above those levels which can be achieved by a program acceptable to the Board, is prohibited. This Prohibition is to be implemented by Provision D.2., listed below.

D. Provisions

1. The discharger shall comply with the limitations, prohibitions, and other provisions of this order immediately upon its adoption by the Board.
2. Compliance with Prohibition C.2. shall be achieved in accordance with the following time schedule:

A. The Discharger shall investigate thoroughly and then implement forthwith all reasonable treatment and source control measures to limit the discharge of the constituents arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc to the maximum extent practicable. The Discharger shall report on the findings of this study and describe future plans for source reduction and treatment to the satisfaction of the Executive Officer by July 1, 1991.

In the development of control strategies, consideration must be given to either elimination of the source, and/or control to a level that would result in final effluent quality meeting the 1986 Basin Plan shallow water effluent limits (contained in Table 4-1).

B. The Discharger shall investigate thoroughly and implement all reasonable treatment and source control measures to limit the discharge of selenium according to the following time schedule:

<u>Task</u>	<u>Deadline</u>
Determine sources and develop a source control and treatment assessment program acceptable to the Executive Officer for selenium in Waste 001. This shall include a program to assess alternative treatment technologies which will determine the technical and economic feasibility of reducing the Waste 001 selenium effluent concentration to the concentrations of 1, 10, and 50 ppb	October 1, 1990
Begin implementing a control strategy study acceptable to the Board for selenium in Waste 001 that incorporates the findings from the previous task.	December 1, 1990
Implement a control strategy acceptable to the Board that incorporates the results and findings of the previous task.	December 1, 1991
<p>C. In order to characterize the quality of stormwater discharge, the Discharger shall analyze Waste 002 and 003 weekly for the constituents listed in Effluent Limitation A.3., and selenium, until May 1, 1991. In addition, the first discharges of these Wastes following the adoption of this permit are to be analyzed by EPA methods 624 and 625. The results will then be analyzed to determine the extent of future monitoring or treatment of these Wastes that will be required. The Discharger shall also determine the feasibility of providing flow measurement for these Wastes, to be provided in a report submitted to the Board by September 1, 1990.</p> <p>Based on the results of the Provisions D.2. A, B, and C, this permit shall be reopened and modified pursuant to 40 CFR 122.62 and 124.5 to incorporate the results of the source control and treatment program.</p> <p>In the event that the Discharger's control strategies are not effective or that the Discharger's progress towards implementing those strategies is not effective, this permit shall be reopened and modified to include effluent limits pursuant to 40 CFR 122.62 and 124.5.</p>	
<p>3. The Discharger shall study the potential for accumulation of metallic and organic compounds, and selenium, present in Waste 001 in San Francisco Bay organisms known or suspected to accumulate these compounds. These compounds should be analyzed in Waste 001 and in the tissue of test organisms exposed to Waste 001 to determine bioconcentration factors that can then be used to predict concentrations of</p>	

these compounds in organisms that may be exposed to Waste 001 in the receiving water. This study may involve a combination of laboratory and in situ work. An implementation plan shall be submitted by January 1, 1991, and implementation shall commence no later than 30 days after approval of the plan by the Executive Officer.

4. The Discharger shall study the potential for accumulation of metallic and organic constituents, and selenium present in Waste 001 in sediments adjacent to the Waste 001 deepwater outfall. An implementation plan shall be submitted by January 1, 1991 and implementation shall commence no later than 30 days after approval of the plan by the Executive Officer.
5. The discharger shall investigate near-field & far-field impacts of the discharge of metallic and organic substances, and selenium in Waste 001. The investigation shall include water column, sediment, and bioaccumulation monitoring. An implementation plan shall be submitted by January 1, 1991, and implementation shall commence no later than 30 days after approval of the plan by the Executive Officer.
6. Effluent Dispersion Study

The discharger shall conduct a dispersion study to determine the actual dilution and transport of Waste 001 achieved by discharge through their outfall. The study shall include determination of initial and intermediate field dilutions during high and low effluent (Waste 001) flows, and strong and weak tidal cycles during periods of high and low Delta inflow. (See 40 CFR 125.61(a)). Receiving water monitoring stations shall also be sited as part of the study. The Discharger shall implement the dispersion study according to the following time schedule:

<u>Task</u>	<u>Deadline</u>
Submit a plan for implementing the dispersion study for approval by the Executive Officer.	September 15, 1990
Implement the dispersion study.	January 15, 1991
Submit the results of the approved study.	October 15, 1991

7. The discharger shall develop and submit a Best Management Practices (BMP) program to the Board by May 1, 1991. The BMP program shall be consistent with the EPA regulations 40 CFR 125, Subpart K, and the general guidance contained in the "NPDES Best Management Guidance Document," EPA Report No. 600/9-79-045, December 1979 (revised June 1981), and shall include a disclosure of all biocides used within this facility. A BMP program acceptable to the Executive Officer shall be implemented by October 1, 1991.

8. This Order shall serve as a National Pollutant Discharge Elimination permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from date of hearing, provided the Regional Administrator, U.S. Environmental Protection Agency Region 9, has no objections.
9. This permit shall be modified or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(c), and (d), 303, 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (a) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or,
 - (b) Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.
10. The discharger shall comply with the attached Self-Monitoring Program as adopted by the Board, and as may be amended by the Board pursuant to EPA regulations 40 CFR 122.62, 122.63, 124.5.
11. Pursuant to EPA regulations 40 CFR 122.44, 122.62, and 124.5, this permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as a part of this Order.
12. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to Environmental Protection Agency regulations (40 CFR 122.41K).
13. Pursuant to Environmental Protection Agency regulations [40 CFR 122.42(a)] the discharger must notify the Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture a toxic pollutant not reported in the permit application, or (2) a discharge of a toxic pollutant not limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits in 40 CFR 122.42(a).
14. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements and Definitions," dated December, 1986.

15 This Order expires on July 18, 1995 and the discharger must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

16 Order 85-30 is hereby rescinded.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 18, 1990.



STEVEN R. RITCHIE
Executive Officer

Attachments:

Location Map

Standard Provisions and Reporting Requirements and Definitions, dated December, 1986

Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING REQUIREMENTS
FOR

PACIFIC REFINING COMPANY
HERCULES
CONTRA COSTA COUNTY

NPDES NO. CA0005096
ORDER NO. 90-104

CONSISTS OF PART A (DATED 12/86)

AND

PART B

SELF-MONITORING PROGRAM

PART B

DESCRIPTION OF SAMPLING STATIONS
AND
SCHEDULE OF SAMPLING, ANALYSIS & OBSERVATIONS

I. Sampling Station Location/DescriptionA. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present.
E-001D	At any point in the disinfection facilities for Waste 001, at which point all sewage tributary there is present and adequate contact with the disinfectant is assured (May be the same as E-001).
E-002	At the point of discharge of Waste 002.
E-003	At the point of discharge of Waste 003.

B. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-A-0	Background station, 100 feet upstream of diffuser section.
C-A-1	10 feet downstream of center port.

- C-A-2 60 feet downstream of center port.
- C-A-3 120 feet downstream of center port.
- C-R-1 At a point in San Pablo Bay, located approximately 3000 feet
northeasterly from the geometric center of the diffuser system for
Outfall 001.
- C-R-2 At a point in San Pablo Bay, located approximately 3000 feet
westerly from the geometric center of the diffuser system for Outfall
001.

C. SEDIMENTS

<u>Station</u>	<u>Description</u>
----------------	--------------------

To be determined.

II. Miscellaneous Reporting

- A. The Discharger shall record the rainfall on each day of the month.
- B. The Discharger shall determine the stormwater runoff/ballast water allocation (daily & monthly) for its discharge using the method described in attached Form A. Form A shall be submitted with the monthly self-monitoring report. The daily maximum allocation must be computed for each day Waste 001 is monitored.
- C. The discharger shall retain and submit (where required) the following information concerning the monitoring program for organic and metallic pollutants:
 1. Description of sample stations, times, and procedures
 2. Description of sample containers, storage, and holding time prior to analysis.
 3. Quality assurance procedures together with any test results for replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for the internal and surrogate standards.
- D. The Discharger shall submit in the monthly self-monitoring report the metallic & organic test results together with the detection limits (including unidentified peaks). All

unidentified (non-Priority Pollutants) peaks detected in the EPA 624 and 625 test methods shall be identified and semi-quantified. Hydrocarbons detected at < 10 ug/l based on the nearest internal standard may be appropriately grouped and identified together as aliphatic hydrocarbons, aromatic hydrocarbons, and unsaturated hydrocarbons. All other hydrocarbons detected at >10 ug/l based on the nearest internal standard shall be identified and semi-quantified.

- E. Ballast Water treated and discharged as part of Waste 001 shall be metered and the volume recorded in attached Form A for each calendar day. The 30-day average shall be the sum of the daily values in a calendar month divided by the number of days in that month. Ballast water allocations shall be calculated by multiplying the volume of ballast water, determined above by the appropriate concentration listed under Effluent Limitation A.2. in the permit.
- F. The Discharger shall submit a sketch showing the location of all ponds, treatment facilities of waste discharge. This shall be updated by the discharger as changes occur.
- G. All chemical or biological analysis required by this order shall be accompanied by adequate and sufficient quality assurance/quality control (QA/QC) protocols to the satisfaction of the Board's Executive Officer. This QA/QC analysis shall be at a minimum that required by the standard methods employed, and summary of the QA/QC data shall accompany the analytical reports to which it applies.

III. Schedule of Sampling and Analysis

- A. The schedule of sampling and analysis shall be that given in Table 1 (attached).
- B. Sample collection, storage, and analysis shall be performed according to the latest 40 CFR Part 136 or other methods approved and specified by the Board or the Executive Officer.
- C. The discharger shall retain and submit (where required) the following information concerning the monitoring program for organic and metallic pollutants:
 - 1. Description of sample stations, times, and procedures
 - 2. Description of sample containers, storage, and holding time prior to analysis.
 - 3. Quality assurance procedures together with any test results for replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for the internal and surrogate standards.

IV. MODIFICATIONS TO PART A

A. Exclude paragraphs D.3., F.3., F.5., and D.2.b.

B. Paragraph D.2.a. shall be modified as follows:

Composite samples of effluent shall be collected on random weekdays and on any day when substantial changes in flow occur during dry weather conditions.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established by this Board.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions may be ordered by the Executive Officer or Regional Board, pursuant to 40CFR 122.62 and 124.4.



STEVEN R. RITCHIE
Executive Officer

Effective

Date

7/18/90

Attachments:

Table 1

Form A

TABLE I

SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

Station	Constituent	Unit	Type of Sample	Frequency of Analysis
E-001	Flow	MGD	Continuous	Continuous
	BOD	mg/l kg/day	Composite	Weekly
	TSS	mg/l kg/day	Composite	Weekly
	Settleable Matter	ml/l/hr	Grab (6)	Weekly
	Oil & Grease	mg/l kg/day	Grab (1)(6)	Weekly
	Ammonia N	mg/l kg/day	Composite	Weekly
	Total Sulfides	mg/l	Grab (3)	Weekly
	COD	mg/l	Composite	Weekly
	Fish Toxicity	Survival	Composite	Weekly (11)
	pH	Std.Units (2)	Continuous	Continuous
	Temperature	Celsius	Continuous	Continuous
	Aluminum	mg/l kg/day	Composite	Weekly
	Arsenic	mg/l kg/day	Composite	Weekly (12)
	Cadmium	"	"	"
	Chromium (total)	"	"	"
	Hex. Chromium	"	"	"
	Cobalt	"	"	"
	Copper	"	"	"
	Cyanide	"	"	"
	Silver	"	"	"
	Selenium (8)	"	"	"

Lead	"	"	"	
Mercury	"	"	"	
Nickel	mg/l	Composite	Weekly	
	kg/day			
Vanadium	"	"	"	
Zinc	"	"	"	
Phenols	"	"	"	
PAH's	"	"	"	
EPA 624 (4)	"	Grab	Twice per year	
EPA 625 (5)	"	Grab	Twice per year	
Standard Observations	-	-	Daily	

E-002 & E-003	Oil & Grease	mg/l	Grab	On each occurrence
	pH	Std. Units	"	"
	TOC	mg/l	"	"
	Standard Observations	-	-	"
	EPA 624/625	ppb	Grab	(9)
	Table 4-1	ppb	Grab	(10)
	Selenium	ppb	Grab	(10)
All C Stations	pH	Std. Units	Grab	Monthly
	D.O.	Mg/l	Grab	Monthly
	Temperature	Deg. C.	Grab	Monthly
	Sulfides	mg/l	Grab	Monthly
	Unionized Ammonia	mg/l	Grab	Monthly

Sediment To follow.

Footnotes for Table 1:

1. Oil and grease sampling shall consist of 3 grab samples taken at 2 hour intervals during the sampling day, with each grab being collected in a glass container. The entire volume of each sample shall be composited prior to analysis. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite wastewater sample for extraction and analysis.

2. Daily minimum and maximum shall be reported.
3. Receiving water analysis for sulfides should be run when dissolved oxygen is less than 5.0 mg/l.
4. Volatile Organic Toxic Pollutants shall be analyzed using EPA Method 624 of the July, 1982, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600/4-82-057.
5. Acid and Base/Neutral Extractable Organic Toxic Pollutants shall be analyzed using EPA Method 625 of the July, 1982, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600/4-82-057.
6. Grab samples shall be collected coincident with samples collected for the analysis of the regulated parameters. In addition, the grab samples must be collected in glass containers.
7. Polynuclear aromatic hydrocarbons shall be analyzed using EPA Method 610 of the July, 1982, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600/4-82-057. Note that the samples must be collected in amber glass containers. These samples shall be collected for the analysis of the regulated parameters. An automatic sampler which incorporates glass sample containers and keeps the samples refrigerated at 4 degrees C. and protected from light during compositing may be used. The 24-hour composite samples may consist of eight grab samples collected at three-hour intervals. the analytical laboratory shall remove flow-proportioned volumes from each sample vial or container for the analysis.
8. Selenium must be analyzed for only by the atomic absorption, gaseous hydride procedure (EPA method No. 270.3/ Standard Method No. 303E).
9. To be sampled at the first discharge following the adoption of this permit.
10. To be sampled weekly on discharge from the adoption of this permit until May 1, 1991.
11. Fathead minnows, and three-spine stickleback are to be tested pursuant to Effluent Limitation A.6. Rainbow trout shall also be tested on a weekly basis in a parallel, 96-hour flowthrough bioassay starting on January 20, 1991. The results of the trout testing are for monitoring purposes only unless otherwise specified by the Executive Officer.
12. Arsenic must be analyzed for only by the atomic absorption, gaseous hydride procedure (EPA method No. 206.3/ Standard Method No. 303E).